

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP98/01844

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁶ H01M4/02, H01M4/04, H01M10/40, H01M6/00, H01M10/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁶ H01M4/02, H01M4/04, H01M10/40

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-1998

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP, 8-153515, A (Toyoda Automatic Loom Works, Ltd.), June 11, 1996 (11. 06. 96), Page 2, column 2, line 42 to page 3, column 3, line 28 ; Fig. 2 (Family: none)	1, 3-5, 7 11-13
X	JP, 8-96795, A (Matsushita Electric Industrial Co., Ltd.), April 12, 1996 (12. 04. 96), Page 4, column 5, lines 26 to 30 (Family: none)	2, 5-7, 9 11, 13
X	JP, 7-320788, A (Hitachi Maxell, Ltd.), December 8, 1995 (08. 12. 95), Page 2, column 2, lines 40 to 42 ; page 3, column 4, line 32 to page 4, column 5, line 46 ; page 5, Table 1 ; page 6 ; Figs. 1 to 3 (Family: none)	1, 3-7 11, 13

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
August 3, 1998 (03. 08. 98)Date of mailing of the international search report
August 11, 1998 (11. 08. 98)Name and mailing address of the ISA/
Japanese Patent Office

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INTERNATIONAL SEARCH REPORT

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PCT/JP98/01844

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP, 7-272760, A (Shin-Kobe Electric Machinery Co., Ltd.), October 20, 1995 (20. 10. 95), Page 2, column 2, line 34 to page 3, column 3, line 28 (Family: none)	1, 3, 5-7
Y	JP, 7-166211, A (Katayama Tokushu Kogyo K.K.), June 27, 1995 (27. 06. 95), Page 2, column 1, lines 1 to 13 (Family: none)	11-13
PX	JP, 9-298057, A (Sanyo Electric Co., Ltd.), November 18, 1997 (18. 11. 97), Page 2, column 1, lines 1 to 24 ; Figs. 1 to 4 (Family: none)	1, 3-5, 7, 11
EX	JP, 10-172537, A (Mitsubishi Electric Corp.), June 26, 1998 (26. 06. 98), Page 3, column 3, line 46, column 4, line 14 ; page 5, column 8, line 45 to page 6, column 10, line 49 (Family: none)	1, 3, 5-7, 10
PA	JP, 9-330704, A (Shin-Kobe Electric Machinery Co., Ltd.), December 22, 1997 (22. 12. 97), Page 2, column 2, lines 41 to 46 ; Fig. 1 (Family: none)	3, 5, 6, 11